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HIV/AIDS and ICU Care: Ethical Issues

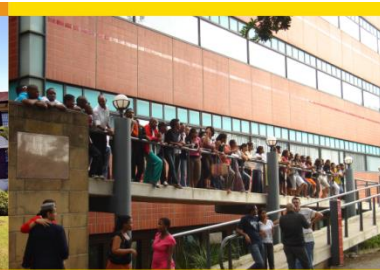
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EDGEWOOD CAMPUS



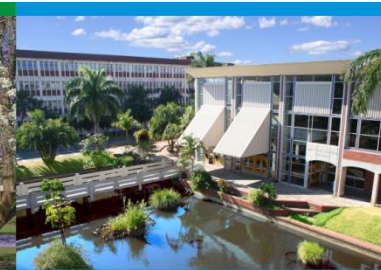
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Introduction

- South Africa has one of the fastest growing HIV epidemics in the world with 6 million people living with HIV/AIDS (PLWHA).
- This must be seen against a global burden of 33.3 million PLWHA.
- SA has 0.7% of the worlds population but 18% of the global burden of disease.
- KwaZulu -Natal Province carries the highest prevalence rate of HIV/AIDS in the country, at an estimated 40% in 2013.

Source: WHO Global TB report 2014

Introduction

- As a consequence of the delayed implementation of the ARV rollout and failure to control the epidemic, the number of PLWHA who seek or need intensive care places a huge burden on precious, expensive and sparse intensive care unit facilities.

Increasing antiretroviral therapy coverage by region

% ART coverage

100

80

60

40

20

0

Number of people receiving ART globally rose from ~2 million in 2005 to ~13 million in 2013

2009

2010

2011

2012

Middle East and North Africa

Eastern Europe and Central Asia

Asia Pacific

Sub-Saharan Africa

Caribbean

Latin America

All low- and middle-income countries

% of people eligible who are receiving ART

(based on 2010 WHO guidelines) Source: UNAIDS Global report 2013

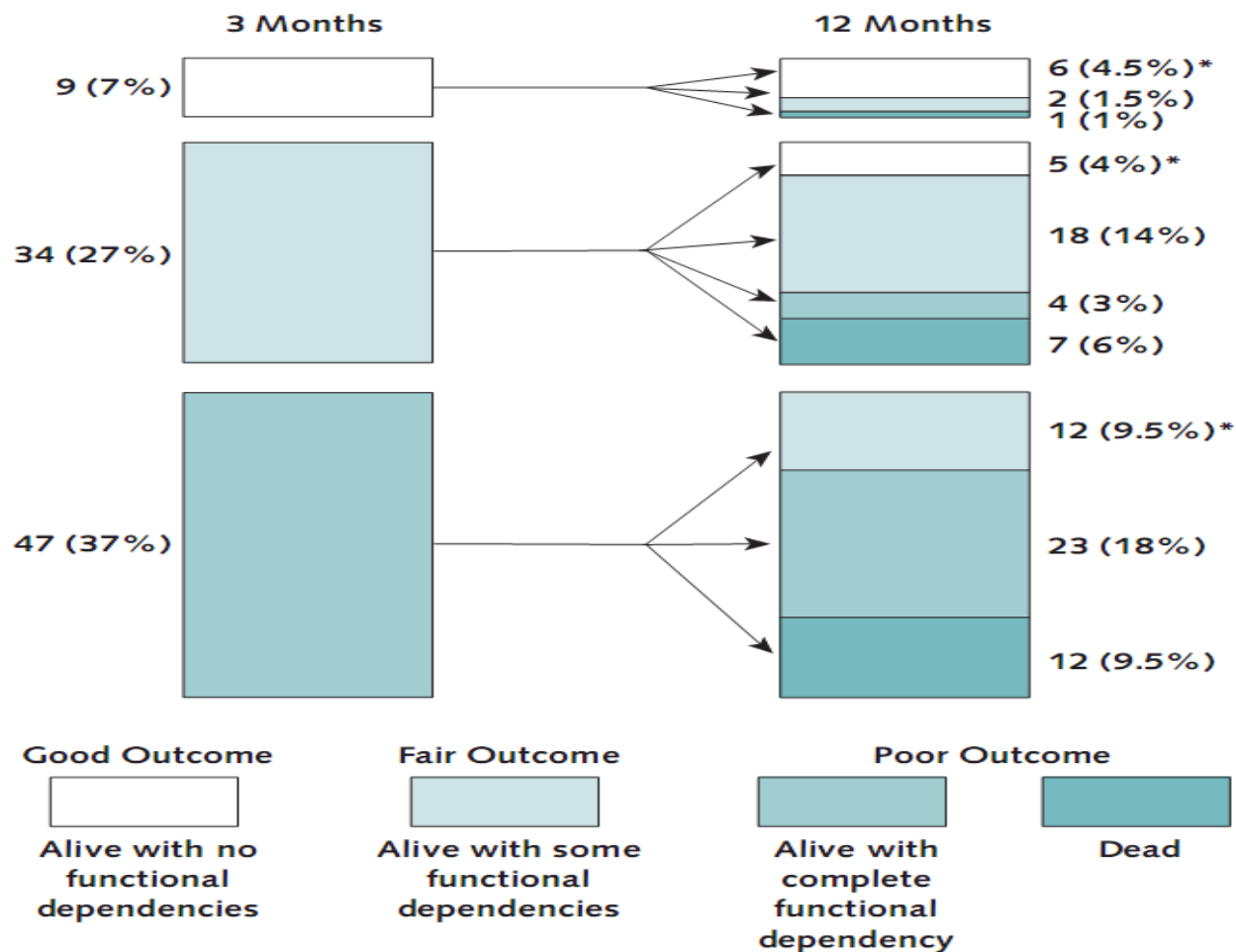
Key issues

- Resource Limitations
- Legal and Ethical Frameworks
- Ethical Dilemmas in ICU
- Lack of an Effective Triage-tool/ effective decision-making tree.
- Unresolved questions regarding ART use in ICU

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- There have been growing concerns recently over the inefficiencies of ICU use, the lack of guidelines and protocols, the discordant use of ICU beds at the end of life, and the high costs of ICU care .

Levin PD, Sprung CL. Critical and Intensive Care Ethics. *The Cambridge Textbook of Bioethics*. United Kingdom: Cambridge University Press, 2008:432-68.

Figure 2. Patient trajectories at 1 year, by health outcome.



cost per patient was \$306 135
 cohort cost was \$38.1 million

- As the population ages, there is an expectation in affluent countries that critical care will be available to all who need it on demand.
- This paradigm brings with it issues of costs, cost-effectiveness, availability and ethical issues of rationing of scarce resources and decisions regarding medical futility.
- End-of-life issues and communication between colleagues and families is paramount in this regard.

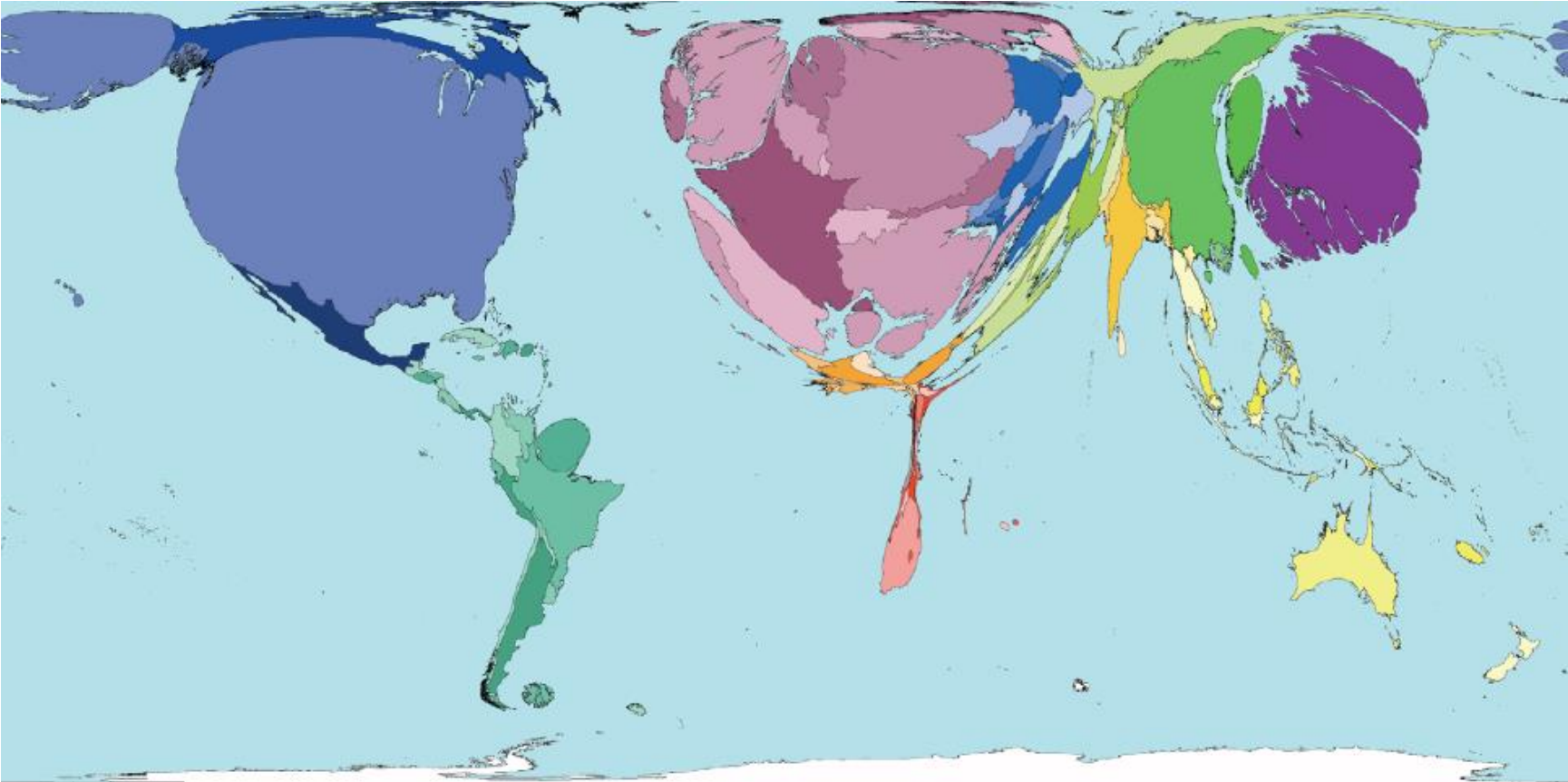
- A critical look at critical care. *The Lancet*;2010;376(9749):1273. [[http://dx.doi.org/10.1016/s0140-6736\(10\)61896-x](http://dx.doi.org/10.1016/s0140-6736(10)61896-x)]

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- Continuous technological refinement of organ-support devices represents the most obvious advance in CCM.
 - However, it is being increasingly noted that the injudicious use of aggressive treatments in the ICU can do more harm than good, e.g. nosocomial infections, severe sepsis, adverse effects of medication, pneumothoraces etc.
 - A critical look at critical care. *The Lancet*;2010;376(9749):1273. [[http://dx.doi.org/10.1016/s0140-6736\(10\)61896-x](http://dx.doi.org/10.1016/s0140-6736(10)61896-x)]

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- The definition of a successful intensive care unit (ICU) outcome has become blurred, and while survival is one measure, it is no longer considered the primary marker of success, as survival to a state of ICU dependence or with marked physical or mental dependence is considered “a fate worse than death”.

Levin PD, Sprung CL. Critical and Intensive Care Ethics. *The Cambridge Textbook of Bioethics*. United Kingdom: Cambridge University Press, 2008:432-68.

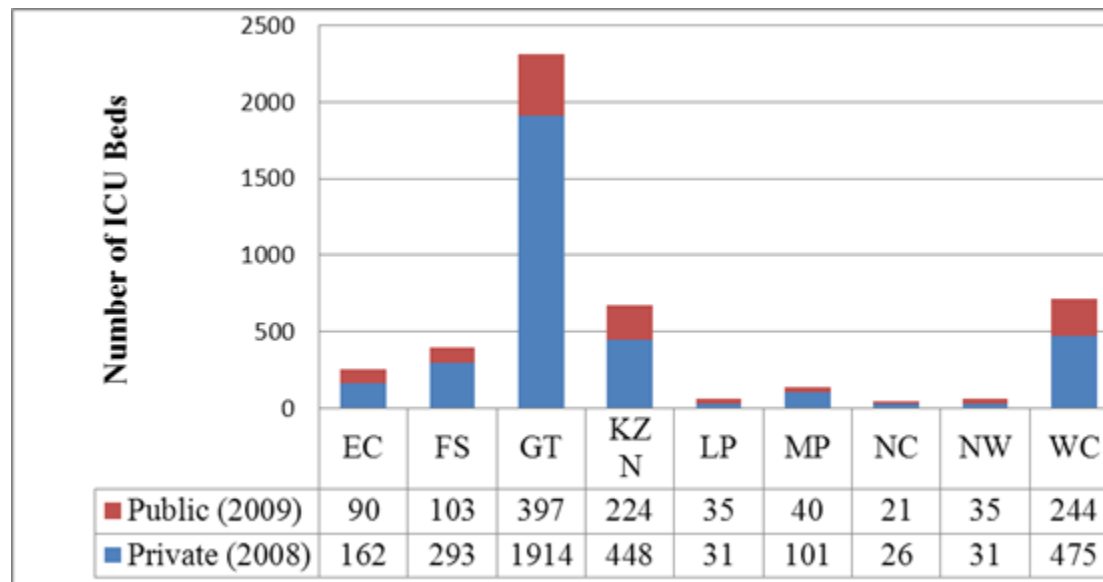
Geo-proportional health spending



Resource Limitations

- In South Africa (SA), the 8.6% of GDP spent on health consists of 4.4% in the private sector which provides for 16 % of the population, and 4.2% in the public sector, which provides for the remaining 84%.
- *Mortality and causes of death in South Africa, 2005: Findings from death notification(Statistical release P0309.3): Statistics South Africa*
- *Bhagwanjee S, Scribante J. National audit of critical care resources in South Africa-unit and bed distribution SAMJ 2007, Vol 97, No 12, p 1311-1314*

Total private and public ICU/HC beds in South Africa 2008-2009



[Naidoo K, Singh J, Lalloo U: A critical analysis of ICU/HC beds in South Africa: 2008-2009. S Afr Med J; 2013 Oct;103\(10\):751-3](#)

Resource Limitations

- In 2008-2009, there were 4 719 ICU beds in the private and public sectors in South Africa, with 75% (3 533) in the private and 25% (1 186) in the public sector.
- The majority of ICU beds in the sectors were located in three provinces,
- Gauteng (49%, 2 312 beds),
- KwaZulu-Natal (14%, 672 beds)
- Western Cape (15%, 719 beds),
- representing 78% of ICU beds (3 703/4 719) and catering for 54% of the country's population.

Naidoo K, Singh J, Lalloo U: A critical analysis of ICU/HC beds in South Africa: 2008-2009. S Afr Med J; 2013 Oct;103(10):751-3

Resource Limitations

- With the proposed NHI scheme, the number of ICU beds available would be 4 719, which would translate to a bed: population ratio of approximately 1:10 000.
- However, there are large variations across the province, which makes the availability of this level of care in some provinces non-existent.
- Not only is there a shortage of ICU beds, but the 2007 ‘National Audit of Critical Care Services’, commissioned by the Critical Care Society of Southern Africa, indicated that there was a shortage of approximately 291 CCS in South Africa.

-Naidoo K, Singh J, Lalloo U: A critical analysis of ICU/HC beds in South Africa: 2008-2009. S Afr Med J; 2013 Oct;103(10):751-3

-Bhagwanjee S, Scribante J. National audit of critical care resources in South Africa-unit and bed distribution SAMJ 2007, Vol 97, No 12, p 1311-1314

The Constitution of the Republic of South Africa (Act No 108 of 1996)

- s10-inherent dignity and respect;
- s12(2)-bodily and psychological integrity;
- s27- Everyone has the right to have access to health care services;
- s27(3)- No one may be refused emergency medical treatment.

Resource Limitations- case precedent
Soobramoney v Minister of Health
(KwaZulu-Natal)

- In South Africa, the legally accepted basis for rationing have been canvassed in the case of *Soobramoney*, in terms of the ‘Limitation clause’ contained in s36 of the Bill of Rights.
- In a case involving the right to access dialysis treatment, the Constitutional Court held that the right to emergency medical treatment was restricted to a person who suffers a sudden catastrophe which calls for immediate medical attention.

[Soobramoney v Minister of Health \(KwaZulu-Natal\) \(R\) \[1998\] JOL 1825 \(CC\)](http://butterworths.ukzn.ac.za.ezproxy.ukzn.ac.za:2048/nxt/gateway.dll?f=templates$fn=default.htm$vid=myInb:10.1048/enu)
[http://butterworths.ukzn.ac.za.ezproxy.ukzn.ac.za:2048/nxt/gateway.dll?f=templates\\$fn=default.htm\\$vid=myInb:10.1048/enu](http://butterworths.ukzn.ac.za.ezproxy.ukzn.ac.za:2048/nxt/gateway.dll?f=templates$fn=default.htm$vid=myInb:10.1048/enu) (accessed 9/03/2012)

Resource Limitations- case precedent

- The Court held that the right to emergency treatment could not mean that the treatment of terminal illnesses had to be prioritised over other forms of medical care, such as preventative health care.

Soobramoney v Minister of Health (KwaZulu-Natal) (R) [1998] JOL 1825 (CC)

[http://butterworths.ukzn.ac.za.ezproxy.ukzn.ac.za:2048/nxt/gateway.dll?f=templates\\$fn=default.htm\\$vid=mylnb:10.1048/enu](http://butterworths.ukzn.ac.za.ezproxy.ukzn.ac.za:2048/nxt/gateway.dll?f=templates$fn=default.htm$vid=mylnb:10.1048/enu) (accessed 9/03/2012)

Resource Limitations- case precedent

- The court's decision is significant as it endorsed the reasoning that limited resources should be prioritized to the most deserving patients meeting scientifically validated triage/eligibility criteria.

Soobramoney v Minister of Health (KwaZulu-Natal) (R) [1998] JOL 1825 (CC)

[http://butterworths.ukzn.ac.za.ezproxy.ukzn.ac.za:2048/nxt/gateway.dll?f=templates\\$fn=default.htm\\$vid=mylnb:10.1048/enu](http://butterworths.ukzn.ac.za.ezproxy.ukzn.ac.za:2048/nxt/gateway.dll?f=templates$fn=default.htm$vid=mylnb:10.1048/enu) (accessed 9/03/2012)

Principles of Biomedical Ethics

- Beauchamp and Childress have suggested four basic principles particularly relevant to health care ethics: autonomy, beneficence, non-maleficence and justice.
 - The principle of justice asks, ‘Who ought to receive benefits and bear burdens?’
 - Beauchamp and Childress further state that this is a question of justice, in the sense of ‘fairness in distribution, or ‘what is deserved’.
-
- Beauchamp TL, Childress JF. *Principles of biomedical ethics*. New York: Oxford University Press, 1979.

Resource Limitations-Implications- SA

- In South Africa, 7% of PLWHA have AIDS (approx. 360 000 people).
- *AIDS epidemic update 2009 accessed at http://data.unaids.org/pub/Report/2009/JC1700_Epi_Update_2009_en.pdf on 11/09/2010.*
- **Hypothesis:** If 5% of these patients require ICU care at any one time, this would require 18 000 ICU beds ,which does not exist, even if to the exclusion of all the other categories of patients requiring ICU care e.g. Trauma, Non-HIV related Sepsis etc.

Resource Limitations-Implications for SA

- As a result, South Africa, as a resource constrained country and with a high burden of disease, needs to use best available evidence of outcomes for patients with HIV infection requiring ICU care, with due respect to applicable laws and ethical principles guiding the management of PLWHA and the appropriate use of scarce resources.
- *Jeena PM, McNally LM, Stobie M, Coovadia HM, Adhikari MA, Petros AJ. Challenges in the provision of ICU services to HIV infected children in resource poor settings: a South African case study. J Med Ethics 2005;31:226-30*

HIV Testing and Disclosure in ICU

- Up to 40% of patients with HIV infection are unaware of their status at the time of admission.
- **For patients who cannot consent, is it ethically acceptable to perform an HIV test and disclose such information?**
- Knowledge of a patient's HIV status may influence the differential diagnosis and affect diagnostic and treatment decisions, including the use of HAART.
- The availability of rapid HIV testing that can provide results within hours has increased the potential usefulness of HIV diagnosis in the treatment of PLWHA in ICU.

Strauss SA mentions that:

- “Emergency medical treatment without consent is justified where there is serious possibility of death or deterioration of the health of the patient. The treatment must be in the best interests of the patient. The treatment must not be against the will of the patient e.g. any advanced directive. This is justified on the basis of **NECESSITY.**”

- [Strauss SA Doctor, Patient and the Law 1991;3: 93.](#)

Disclosure of a patient's HIV status

1. Patient consents to the disclosure.
2. A court of law orders them to make a disclosure
3. An Act of Parliament requires them to make a disclosure;
4. There is a moral or legal obligation on them to make a disclosure to a person or agency that has a reciprocal moral or legal obligation to receive the information;

Disclosure of a patient's HIV status in ICU?

Is this acceptable to an incapacitated patient admitted to ICU?

Was prior consent given by the patient?

Disclosure to family and friends: NO!

Disadvantage of Disclosure: affects relationships/interactions between ICU staff and relatives and friends and eventually for the patient who survives.

ETHICAL CODES OF CONDUCT

HPCSA

- The HPCSA further states that: ‘Unilateral decisions not to resuscitate people with HIV infection are a violation of fundamental rights and may lead to disciplinary action being taken against a health care professional who finds himself or herself guilty of such action.’

- *HPCSA. Guidelines For The Withholding And Withdrawing Of Treatment. In; 2007*

ETHICAL DILEMMA

- HIV infection presents ethical dilemmas for health care professionals involved in critical care settings.
- “The requirement to prolong life in situations where the outcome is anticipated to be poor results in ethical conflict.”
- *Lamke C. Distributive justice and HIV disease in intensive care. Crit Care Nurs Q 1996;19:55-64*

CCS's NEED TO CONSIDER THREE MAIN ISSUES WHEN FACED WITH A NEW REFERRAL:

- 1. Does the patient's acute condition warrant ICU admission? In this regard, is the patient too ill to benefit from ICU care or is the patient well enough to receive care in a high-care ward?
 - 2. Is there a pre-existing problem, such as advanced HIV infection with multi-organ failure to make ICU care inappropriate or of no benefit to the patient?
 - 3. Is there a bed available in the ICU for this patient, or can an existing ICU patient be discharged safely to make room for the new patient?
-
- *Levin PD, Sprung CL. Intensive care triage--the hardest rationing decision of them all. Critical Care Medicine 2006;34:1250-1*

ETHICAL DILEMMA

- The above decisions by the CCS must be based on some objective guidelines such as a triage tool.
- In the context of HIV infection, there are no existing objective criteria determining who will benefit from ICU admission, and no universally accepted exclusion criteria.

• *Levin PD, Sprung CL. Intensive care triage--the hardest rationing decision of them all. Critical Care Medicine 2006;34:1250-1*

ETHICAL DILEMMA

- The lack of such a triage tool would subjectively lead to the exclusion of certain categories of patients
- Problem-individual value- judgement based on age, co-morbidity (e.g. wheel-chair-bound), HIV Infection -morally not right.
- ‘ Physicians using HIV infection as an exclusion criteria for admission to ICU is common practice.’

Mathiva L. ICUs worldwide: An overview of critical care medicine in South Africa. Critical Care 2002;6:22 - 3

ETHICAL DILEMMA

- The Task Force of the American College of Critical Care Medicine and the Society of Critical Care Medicine (1999) **emphasise benefit as a priority.**
- The American Thoracic Society (1997) suggested that patients should be admitted on a first come-first served basis, **provided there is an expected minimal benefit** to ICU admission.
- *Society of Critical Care Medicine Ethics C, Sprung CL, Danis M, et al. Consensus Statement on the Triage of Critically Ill Patients. JAMA 1994;271:1200-3*

COPICON-2011

- At the Critical Care Conference of Southern Africa, hosted in Durban, SA, it was mentioned that in SA, only 4-5% of hospitalised HIV infected patients are admitted to ICU, and this was referred to as 'The physician's prejudice'.
- The speaker had referred to the fact that for HIV patients admitted to ICU, the mortality trends had decreased from 69% (1981-1985) to 37% (1992-1995) and further to 29% (2001) as a result of more effective and complex regimens of HAART.

ETHICAL DILEMMA

- The concept of benefit has different meaning in the hands of the CCS, and to the patients and their families which may be highly subjective and emotive bringing in the concept of medical futility.

ETHICAL DILEMMA

- Therefore ,at present, no clear evidence-based guidelines are available to assist the CCS in deciding which patients are to be admitted to ICU, particularly in the context of a resource constrained environment for PLWHA (my emphasis).

- *Levin PD, Sprung CL. Critical and Intensive Care Ethics. In: The Cambridge Textbook of Bioethics. United Kingdom: Cambridge University Press; 2008:432-6*

ETHICAL DILEMMA

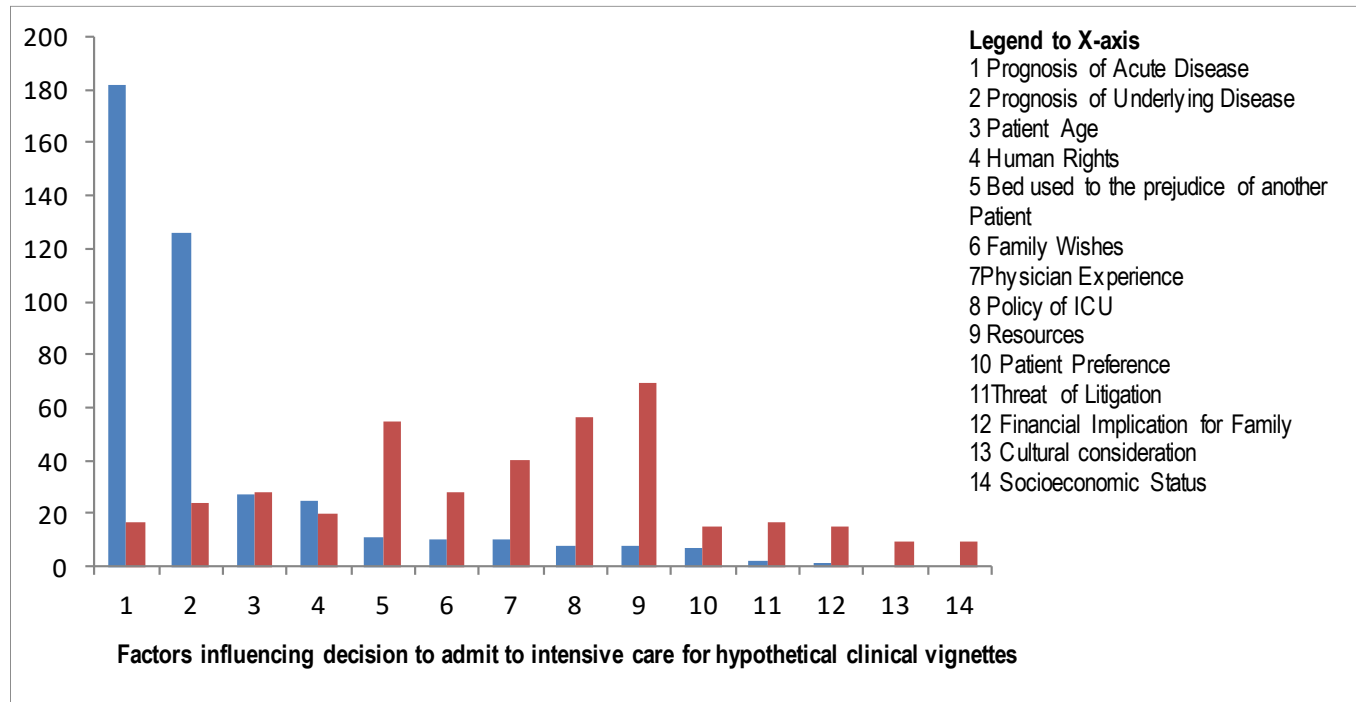
- The Code of Ethics for Emergency Physicians in the USA and the HPCSA guidelines on the management of patients with HIV infection or AIDS imposes an ethical duty on a physician not to discriminate against a patient on the basis of their HIV status.
- Both regulatory bodies further state that a physician is under no obligation to provide ‘futile or non-beneficial treatment’.

KAP SURVEY- COPICON 2011

- The attitude and perception survey conducted as part of this study showed that CCSs decisions to admit people living with HIV/AIDS(PLWHA) were consistent with these ethical and professional guidelines.
- An important finding was the absence of discrimination against PLWHA and access to intensive care.
- In keeping with published guidelines, doctors considered the prognosis of the acute disease and of the underlying disease as most important.

Naidoo K, Singh JA, Lalloo UG. Survey of ethical dilemmas facing intensivists in South Africa in the admission of patients with HIV infection requiring intensive care. *S Afr J Crit Med* 2013;29(1):28-32.10.7196/SAJCC.153-

KAP SURVEY- COPICON 2011



Bar graph showing cumulative responses by CCS to standardized questions regarding determinants to admission to ICU to 5 clinical vignettes

Blue represents cumulative responses considered MOST IMPORTANT and Red, LEAST IMPORTANT

Blue bars represents cumulative responses they considered most important and red least important

Naidoo K, Singh JA, Lalloo UG. Survey of ethical dilemmas facing intensivists in South Africa in the admission of patients with HIV infection requiring intensive care. *S Afr J Crit Med* 2013;29(1):28-32.10.7196/SAJCC.153

HIV/AIDS AND PREDICTORS OF THE OUTCOME OF THE CRITICALLY-ILL HIV-INFECTED PATIENTS REPORTED IN THE LITERATURE

- Methods:
- A snowball review using the following databases was used, namely Pubmed, Medline and Ebscohost using the search terms **HIV and ICU and Predictors of Survival.**
- 32 fully referenced international publications were sourced spanning the period 1999-2011 and the referenced data are presented in tables (1-8).

Poster Presentation at WFSICCM-2013

Predictors of Survival of Critically-ill HIV-Infected Patients: A literature review

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INTRODUCTION

The demand for intensive care unit (ICU) beds exceeds its available supply in diverse global settings. In resource limited countries such as South Africa, at the epicenter of the HIV epidemic, intensivists need to make ethically difficult decisions regarding the triaging of patients with advanced HIV infection to intensive care. None of the current physiological severity criteria such as acute physiology and chronic health evaluation (APACHE) and simplified organ function assessment (SOFA) amongst others were designed to triage patients into ICU, presenting a fundamental void in the guidelines to intensive care provision.

AIM

We reviewed the published literature on factors associated with poor survival in ICU with the aim of providing an overview of current knowledge which may influence the development of a specific triage tool for the admission of PLWHA to ICU care particularly in resource limited settings where the burden of HIV disease is greatest but availability of ICU beds disproportionate to the epidemic.

METHODS

Study design

We performed a systematic review using the search terms 'HIV/AIDS', 'survival', and 'intensive care' in the MEDLINE, PUBMED and EBSCOHOST database for the periods 1999 to 2012. This search strategy produced 401 prospective articles of which 22 met most study eligibility criteria. However, in two studies access to ART was not available to patients and excluded. Twenty articles met all study criteria and formed the basis of this meta-analysis (Figure 1).

Eligibility criteria

We limited our study to published data on HIV infected adult's ≥ 18 years of age admitted to ICU, in retrospective cohort studies. These studies had to present both demographic and clinical data with mean and standard deviations. Patients had to have access to highly active antiretroviral therapy (HAART).

Statistical Analysis

Meta-analysis of the available odds ratio (OR) and corresponding confidence interval (CI) for the Forest Plots were performed using PRISMPAD[®] (GraphPad Software, Incversion 5, California, USA). Two additional analyses were performed to determine the factors associated with survival for PLWHA admitted to ICU and to determine if treatment with HAART in ICU influenced survival.

Ethics

This study was approved by the Bio-Medical Research Ethics Committee of the University of KwaZulu-Natal (Ref: BE 089/010).

RESULTS

Data from the meta-analysis identified eight predictors associated with poor survival in intensive care.

These included a diagnosis of

1. PNEUMOCYSTIS JIROVECI PNEUMONIA (PJP)
2. APACHE II SCORE <19
3. NEED FOR MECHANICAL VENTILATION
4. ORGAN FAILURE
5. LOW CD4 COUNT <50 cells/mm³
6. SEPSIS
7. LOW SERUM ALBUMIN <3 g/dl
8. DELAY IN HOSPITAL TO ICU ADMISSION

These predictors were not stand-alone but rather a constellation of factors related to the survival of a patient with HIV/AIDS in ICU as reflected in the reference summary (Tables 1-7 Figures 2-8)

Table 1. APACHE II Data as a predictor of increased mortality

Study	Author	Indicator
1 (11/01/04)	Chen ²⁰⁰⁴	ApaccheII
1 (12/02/05)	Shawling ²⁰⁰⁵	ApaccheII
1 (12/05/07)	van der Merwe ²⁰⁰⁷	ApaccheII
1 (01/01/11)	Agnew ²⁰⁰⁸	ApaccheII
1 (11/05/10)	Maria ²⁰⁰⁹	ApaccheII
1 (11/07/12)	van der Merwe ²⁰¹²	ApaccheII
1 (11/07/12)	van der Merwe ²⁰¹²	ApaccheII

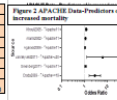


Table 2. PJP Data - Predictors of increased mortality

Study	Author	Indicator
1 (11/01/04)	Chen ²⁰⁰⁴	PJP
1 (12/02/05)	Shawling ²⁰⁰⁵	PJP
1 (12/05/07)	van der Merwe ²⁰⁰⁷	PJP
1 (01/01/11)	Agnew ²⁰⁰⁸	PJP
1 (11/05/10)	Maria ²⁰⁰⁹	PJP
1 (11/07/12)	van der Merwe ²⁰¹²	PJP
1 (11/07/12)	van der Merwe ²⁰¹²	PJP

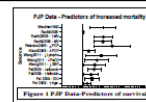


Table 3. Mechanical Ventilation Data as a predictor of increased mortality

Study	Author	Indicator
1 (11/01/04)	Chen ²⁰⁰⁴	Mech Vent
1 (12/02/05)	Shawling ²⁰⁰⁵	Mech Vent
1 (12/05/07)	van der Merwe ²⁰⁰⁷	Mech Vent
1 (01/01/11)	Agnew ²⁰⁰⁸	Mech Vent
1 (11/05/10)	Maria ²⁰⁰⁹	Mech Vent
1 (11/07/12)	van der Merwe ²⁰¹²	Mech Vent
1 (11/07/12)	van der Merwe ²⁰¹²	Mech Vent

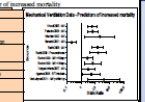


Table 4. Organ Failure Data as a predictor of increased mortality

Study	Author	Indicator
1 (11/01/04)	Chen ²⁰⁰⁴	Organ Fail
1 (12/02/05)	Shawling ²⁰⁰⁵	Organ Fail
1 (12/05/07)	van der Merwe ²⁰⁰⁷	Organ Fail
1 (01/01/11)	Agnew ²⁰⁰⁸	Organ Fail
1 (11/05/10)	Maria ²⁰⁰⁹	Organ Fail
1 (11/07/12)	van der Merwe ²⁰¹²	Organ Fail
1 (11/07/12)	van der Merwe ²⁰¹²	Organ Fail

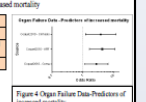


Table 5. CD4 Data as a predictor of increased mortality

Study	Author	Indicator
1 (11/01/04)	Chen ²⁰⁰⁴	CD4
1 (12/02/05)	Shawling ²⁰⁰⁵	CD4
1 (12/05/07)	van der Merwe ²⁰⁰⁷	CD4
1 (01/01/11)	Agnew ²⁰⁰⁸	CD4
1 (11/05/10)	Maria ²⁰⁰⁹	CD4
1 (11/07/12)	van der Merwe ²⁰¹²	CD4
1 (11/07/12)	van der Merwe ²⁰¹²	CD4

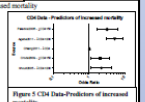


Table 6. Serum Albumin Data as a predictor of increased mortality

Study	Author	Indicator
1 (11/01/04)	Chen ²⁰⁰⁴	Serum Alb
1 (12/02/05)	Shawling ²⁰⁰⁵	Serum Alb
1 (12/05/07)	van der Merwe ²⁰⁰⁷	Serum Alb
1 (01/01/11)	Agnew ²⁰⁰⁸	Serum Alb
1 (11/05/10)	Maria ²⁰⁰⁹	Serum Alb
1 (11/07/12)	van der Merwe ²⁰¹²	Serum Alb
1 (11/07/12)	van der Merwe ²⁰¹²	Serum Alb

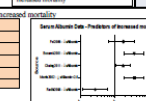
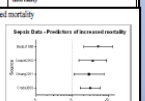


Table 7. Sepsis Data as a predictor of increased mortality

Study	Author	Indicator
1 (11/01/04)	Chen ²⁰⁰⁴	Sepsis
1 (12/02/05)	Shawling ²⁰⁰⁵	Sepsis
1 (12/05/07)	van der Merwe ²⁰⁰⁷	Sepsis
1 (01/01/11)	Agnew ²⁰⁰⁸	Sepsis
1 (11/05/10)	Maria ²⁰⁰⁹	Sepsis
1 (11/07/12)	van der Merwe ²⁰¹²	Sepsis
1 (11/07/12)	van der Merwe ²⁰¹²	Sepsis



DISCUSSION

In the context of PLWHA and ICU admission, current literature has identified eight predictors associated with poor survival in ICU. These are the diagnosis of PJP, APACHE II score less than 19, low serum albumin level below 3 g/dl, CD4 count of less than 50 cell/mm³, initiation of mechanical ventilation, sepsis, organ failure and time interval between hospital admission and admission to ICU. In all literature reviewed in this meta-analysis, these predictors were not stand-alone but rather a constellation of factors related to the survival of PLWHA in ICU.

The benefits of ART are unquestionable as it has transformed HIV/AIDS from an acute terminal illness, to a chronic manageable illness.²⁴ This is validated by improved survival of PLWHA in ICU who have been on HAART. In the ART era, ICU to ward survival rates of 70% have been recorded in HIV-infected patients, which is similar to that of the general medical population.^{2,24}

CONCLUSION AND RECOMMENDATIONS

We propose that general guidelines to the intensivist that being, is the patient 'too well or too ill' for ICU care and is there is a realistic prospect of reversibility of organ dysfunction, should apply equally to PLWHA requiring ICU care. These data may be helpful for both health policy makers and ICU directors and serve as a benchmark for future studies on decision-making in the context of HIV/AIDS and intensive care in a resource limited setting.

HIV/AIDS and Predictors of the Outcome of the Critically-ill HIV-Infected Patients reported in the literature

1. Diagnosis of PJP,
2. APACHE 11score,
3. Need for mechanical ventilation,
4. Organ failure,
5. CD4 count,
6. Sepsis,
7. Serum albumin and,
8. Hospital to ICU interval.

HIV/AIDS and Predictors of the Outcome of the Critically-ill HIV-Infected Patients reported in the literature

- In all the literature reviewed, these predictors are not stand-alone but rather a constellation of factors and may involve all eight predictors related to the survival of a PLWHA in ICU.

Complexities of HAART in ICU

- Initiation of HAART should be deferred among patients admitted to the ICU with a condition not related to AIDS.
- HAART should be commenced if the CD4 cell count is below 200 cells/mm³, and there is a prolonged course in ICU.

- Huang L, Quartin A, Jones D, Havlir D. Intensive care of patients with HIV infection. *N Engl J Med* 2006;355:173-81.
- Venturas J. Initiation of antiretrovirals in critically ill patients. *South African Journal of Anaesthesiology* 2011;17(1).

AIDS and ICU Care

Impact of HAART

- The decreased toxicities of the newer HAART regimens strengthen the argument for their use in ICU.

- *Morris A, Crothers K, Beck JM, Huang L. An official ATS workshop report: Emerging issues and current controversies in HIV-associated pulmonary diseases. Proc Am Thorac Soc 2011;8(1):17-26. [<http://dx.doi.org/8/1/17> [pii]10.1513/pats.2009-047WS]*

ICU prognostic systems

- On the use of ICU prognostic systems in deciding between competing patients, the ATS states that these predictive tools are only of value to the patient already receiving ICU care. Furthermore, these tools are limited by their accuracy due to the statistical nature of their deviation and the heterogeneity of the reference populations.
- The ATS also states that even if more accurate and discriminating prognostic tools become available in the future, a value judgment by the individual CCS would be needed to decide what minimal differences in predicted survival rates should be morally compelling.
- Suter P, Armaganidis A, Beaufils F, Bonfill X, Burchardi H, Cook D, et al. Predicting outcome in ICU patients. *Intensive Care Med.* 1994;20:1-8.
- Lanken PL, Terry PB, Adler DC, Brooks-Brunn JA, Crawford SW, Danis M, et al. Fair Allocation of Intensive Care Unit Resources-Position Statement by the ATS Bioethics Task Force. *Am. J. Respir. Crit. Care Med* 1997;156(4):1282-301.

Eligibility criteria for PLWHA and admission to ICU

- General guidelines advised by the professional bodies for use by the general population not infected with HIV/AIDS should be equally applicable to PLWHA, i.e. is the patient ‘too ill or too well to warrant ICU admission?’, and is there a realistic prospective of ‘reversibility of organ dysfunction’?

Costs of Inappropriate ICU Admission

- Financial
 - Admission to ICU
 - Long term care of PVS
- Emotional
 - False hope
 - Delayed grieving
- Ethical
 - Loss of Autonomy
 - Suffering / Harm
 - Wasted resources



Withholding and Withdrawing Care

- Thirion J observed in the case of *Clarke v Hurst* NO23:80
“As it was put in 58 US Law Week 4936: *‘Medical advances have altered the physiological conditions of death in ways that may be alarming: highly invasive treatment may perpetuate human existence through a merger of body and machine that some might reasonably regard as an insult to life rather than its continuation.’*”

Clarke v Hurst NO 1992 (4) SA 630 (D).

What is Medical Futility?

- Interventions that are unlikely to produce any significant benefit to the patient
- A treatment that merely produces a physiological effect on a patient's body does not necessarily confer any benefit that the patient can appreciate e.g. PVS

Levin PD, Sprung CL. Critical and Intensive Care Ethics. *The Cambridge Textbook of Bioethics*. United Kingdom: Cambridge University Press, 2008:432-68.

Medical Futility

- To avoid abuse of this ill-defined concept, the SCCM states that:
 - *‘Treatments that are extremely unlikely to be beneficial, are extremely costly, or are of uncertain benefit may be considered inappropriate and hence inadvisable, but should not be labeled futile.’*
 - The SCCM thus cautions critical care specialists against using the ‘cloak of futility’ to make implicit resource allocation decisions.
- The Ethics Committee of the Society of Critical Care Medicine. Consensus statement of the Society of Critical Care Medicine’s Ethics Committee regarding futile and other possibly inadvisable treatments. *Crit Care Med* 1997;25:887-91.

What if the patient or family requests an intervention that the health care team considers futile?

- Communicate openly about interventions being withheld or withdrawn
- Explain rationale for such decision
- Have compassion for patient and family
- Rather than saying: 'there is nothing I can do for you,' say: 'Everything possible will be done to ensure the patient's comfort and dignity'
- <http://depts.washington.edu/bioethx/topics/futil.html>
- *Azoulay E, Chevret S, Leleu G, et al. Half the families of intensive care unit patients experience inadequate communication with physicians. Critical Care Medicine 2000;28:3044-9*

Conclusion

- Critical care specialists, in the light of the data presented, still need to make ethically challenging decisions regarding PLWHA and whom to admit to ICU.
- Continued research would result in validated policies regarding admission of PLWHA to ICU and further guidelines addressing the complexities of HAART in ICU.

ICU on TV



THANK YOU

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